

## Appendix C

### Tendoy / White Pine Response to Comments

#### Groundwater

Comment No.	Commenter	Subject	Comment
1	Environment Montana Research and Policy Center	Accidents from drilling pose an undue threat to water quality	...we do not believe that it is possible for development to occur in an ecologically sensitive area like the Tendoy Mountains without causing undue risk of spills and water contamination.
<b>Response:</b>  The BLM is authorized to conduct oil and gas operations under CERCLA, the Clean Water Act, and the Oil Pollution Act of 1990. §311 of The Clean Water Act sets forth requirements for the prevention of, the preparedness for, and response to oil discharges a specific non-transportation-related facility. The goal of this regulation is to prevent oil from reaching navigable waters and adjoining shorelines, and to contain discharges of oil. The regulation requires these facilities to develop and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans and establishes procedures, methods, and equipment requirements. Additional requirements for SPCC plans are listed under 40 CFR §112.7 – General requirements for Spill Prevention, Control, and Countermeasure Plans. Lessees are required to prepare and maintain a SPCC plan and report spills to the BLM. Additionally, per NTL-3A, upon request of the District Engineer, a copy of any Spill Prevention Control and Countermeasure Plan (SPCC Plan), required by the Environmental Protection Agency (EPA) pursuant to Title 40 CFR §112, or other acceptable contingency plan must be submitted [to the BLM].  As stated in the EA, Oil and gas exploration could result in spills from traffic accidents, uncontained drilling/production fluids, detergents, solvents, hydrocarbons, metals, naturally occurring radioactive materials, nutrients, or produced fluids that could potentially affect surface and/or groundwater resources in the short and/or long term. These or other constituents utilized during access road construction, well pad construction, and drilling activities could be washed into surface drainages during storm events. Spill prevention and response factors, including a Spill Prevention Control and Countermeasure Plan (SPCC plan), Stormwater Pollution Prevention Plan (SWPPP), and Conditions of Approval of the APD would reduce the frequency and severity of impacts to water resources from spills.			
2	Montana Wilderness Association	Water quality	Baseline studies of water quality should be conducted in the Big Sheep Creek drainage prior, during, and after project activities. These studies should include micro- and macro-invertebrate sampling, pH testing, and identification of any hydrocarbons or other chemicals existing in the creek or aquifers. This water quality data will help inform decisions if exploration proves successful and a full project proposal is developed.
<b>Response:</b>  The Montana Department of Environmental Quality (DEQ) has been given the responsibility for making water quality determinations. The BLM and the State of Montana have detailed how they will cooperate in the assessment and planning process through a formalized Memorandum of Understanding. Many allotments within the BSCW contain streams which are not on the 303(d) list and currently have no beneficial use determinations. Therefore, the water quality standard cannot be			

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<p>determined at this time. The DEQ is planning on conducting beneficial use assessments for all tributaries of the Red Rock River that have high risk over the next several years. All streams within the basin will have some type of evaluation. At a minimum, the DEQ will be conducting risk assessments to determine if a more detailed beneficial use assessment is warranted. Two allotments (Muddy Creek, Rio Puerco) have DEQ 303(d) listed streams that have failed the water quality standard as determined by the DEQ. BLM authorized activities are not necessarily a causal factor.</p> <p>The BLM conducts watershed assessments to monitor Upland Health, Water Quality, Air Quality, and Biodiversity within the watershed. The Big Sheep Creek Watershed assessment was last conducted on June 3, 2016 (<a href="https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&amp;currentPageId=73972">https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&amp;currentPageId=73972</a>). Until a water quality determination has been published by MTDEQ, through monitoring as outlined in the RMP, TR handbooks, and the watershed assessment the BLM can identify changes in riparian health and will be able to mitigate the changes, as necessary.</p>			
3	Montana Wildlife Federation And Trout Unlimited	Monitoring	The EA mentions existing ground and surface water conditions but does not seem to mention anything about long term monitoring. Periodic testing should be required in order to detect changes. An effective monitoring program needs to be adaptive with trigger points for actions that will abate undesirable effects.
<b>Response:</b> See response to #2 above.			
4	Montana Wildlife Federation And Trout Unlimited	Water Use	According to the EA “Approximately 5,000 barrels (0.65 acre feet) of water would be needed to drill and <i>complete the proposed well and control fugitive dust.</i> ” We would request more information of where this water is coming from.
<p><b>Response:</b></p> <p>Per Onshore Order #1 part III.3.(e), the Operator is required to disclose the Location and Types of Water Supply for the proposed well:</p> <p><i>“Location and Types of Water Supply:</i> Information concerning water supply, such as rivers, creeks, springs, lakes, ponds, and wells, may be shown by quarter-quarter section on a map or plat, or may be described in writing. The operator must identify the source, access route, and transportation method for all water anticipated for use in drilling the proposed well. The operator must describe any newly constructed or reconstructed access roads crossing Federal or Indian lands that are needed to haul the water as provided in item b. of this section. The operator must indicate if it plans to drill a water supply well on the lease and, if so, the operator must describe the location, construction details, and expected production requirements, including a description of how water will be transported and procedures for well abandonment.”</p> <p>The Operator has submitted the following in the Surface Use Plan of Operations (identical for both APDs):</p> <ol style="list-style-type: none"> <li>The source of fresh water for cementing and drilling of the surface hole will be from the Municipal water sources in either Dell or Lima, Montana</li> <li>Water will be hauled to the drill site via pump truck. Water will be hauled along the approved road route.</li> <li>No water wells are to be drilled.</li> </ol>			

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5	Montana Wildlife Federation And Trout Unlimited	Water Disposal	<p>...on page 33 the EA states “There would be no impact to water resources from water withdrawal <i>or wastewater disposal in the project area.</i>” However, with no groundwater modeling or hydrological study accompanying the EA, we are unsure how the BLM and Forest Service could come to this conclusion.</p> <p>...on page 76 under “Environmental consequences common to both alternatives” it states, “Up to six 400-700 barrel tanks would be placed on the well pad for storing oil/condensate and produced <i>water.</i>” ... If natural ground water is being extracted with oil and gas, in the amount it needs to be stored and disposed of daily, we believe this would affect the water resource.</p> <p>We would request more information and data on this issue, along with where and how the company proposes to dispose of the produced water.</p>
<p><b>Response:</b></p> <p>The EPA regulates the construction, operation, permitting, and closure of injection wells used to place fluids underground for storage or disposal. Lima Exploration has not submitted any sundry notices to the BLM for construction of an Underground Injection well nor have they submitted a request for a UIC well permit to the EPA.</p> <p>The well, as proposed, has a bottom hole target of greater than 10,000 feet below surface. At this depth water-in-oil emulsion is regularly occurring is expected to be present. The produced water from this process is, in many cases, non-potable water; In general, the total dissolved solids concentration can range from 100 milligrams per liter (mg/L) to over 400,000 mg/L. Thus, this water is not considered a ‘water resource’ for consumption or beneficial surface use.</p> <p>Pursuant to Onshore Order No. 7, water produced from this well may be disposed of in an unlined pit for a period of 90 days from the date of initial production. A permanent disposal method must be approved by the BLM and in operation prior to the end of this 90 day period. In order to meet this deadline, an application for the proposed permanent disposal method should be submitted along with any necessary water analysis, in compliance with Onshore Order No. 7 as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not be approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said is provided and approved by the North Central Montana District Division of Oil and Gas.</p>			
6	Greater Yellowstone Coalition And Trout Unlimited	Effects of Spills	<p>The draft Environmental Assessment (EA) fails to provide the public with a full picture of the affected environment and possible effects and impacts to important resources. In particular, the potential effects to water quality and aquatic resources...This is especially concerning for the Tendoy Well location given that it is in an intermittent drainage that flows directly into Big Sheep Creek a little more than a mile away. ...the EA fails to adequately consider impacts due to sedimentation and erosion.</p> <p>Recommendation:</p> <ul style="list-style-type: none"> <li>• The Environmental Assessment needs to describe the potential outcome of spills and the specific impacts that resources such as fisheries might experience in the event of a spill.</li> <li>• Specifically evaluate and describe to the public impacts due to sedimentation and erosion.</li> </ul>

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<p>Response: The BLM reviews where aquatic resources are present in relation to development activities and has developed design features that would minimize the risk of a spill that could impact aquatic resources.</p> <p>The design features include:</p> <ul style="list-style-type: none"> <li>Utilization of BMPs for control of nonpoint sources of water pollution to prevent erosion. In all potential exploration and development scenarios, the BLM would require the use of Best Management Practices (BMPs) documented in “Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development” (USDI and USDA 2007), also known as the “Gold Book.” Standard federal lease terms and conditions, and federal regulations apply.</li> <li>Conduct construction and production activities consistent with its SWPPP to prevent erosion and sedimentation to the extent possible. Additional mitigation measures include an SPCC plan; the requirements for this plan are listed under 40 CFR §112.7 – General requirements for Spill Prevention, Control, and Countermeasure Plans. Spill prevention plans are required, and any drilling operations will be conducted in accordance with the safety requirements of 43 C.F.R. § 3160, the Federal Onshore Oil and Gas Orders (“Onshore Orders”), BMPs recommended by the American Petroleum Institute, and other industry requirements for the protection of worker safety and public health.</li> </ul> <p>The size of the spill and site characteristics (exact location, quantity, product) during the permitting phase is speculative; these site-specific characteristics will influence whether a spill could reach an aquatic habitat or drinking water resource. Spill prevention and response factors will be incorporated as Conditions of Approval of the APD and may reduce the severity of impacts to surface water resources from a spill if one should occur.</p> <p>Impacts from sedimentation and erosion are discussed in Appendix D. Observations from existing conditions of sediment delivery to stream locations are described in the appendix. Recommendations for reductions in sediment load are listed in Tables D-4 and D-5. Sediment loads and the effects of proposed road upgrades and improvements are discussed in the EA P. 38-43. As stated in the EA: “The risk of sedimentation to live water from roads crossing ephemeral drainages associated with this project is negligible due to distance from streams and the buffering of erosion and sediment movement by topography and vegetation. The Road Sediment Assessment Report (<b>Appendix D</b>) illustrates that road construction and upgrade associated with both location alternatives will reduce existing sediment loads on Big Sheep Creek Road and Little Sheep Creek Road by 10.49% and 48.55%, respectively...”(p.41). Sedimentation is expected to decrease with proposed road upgrades and there will be no new effects of additional sedimentation as a result of the project. The baseline effects of current sedimentation loads are described in both Appendix D and section 3.3.1 of the EA.</p>			
7	Greater Yellowstone Coalition And Trout Unlimited	Sedimentation	<p>...we believe stating that if the drilling project does not happen then “no road improvements would be made” (p.33) isn’t a totally accurate statement. ...many of the recommendations described in Appendix D to reduce the existing sediment load are to simply maintain grader berms and to ensure better grader practices to avoid side-casting material. These practices could occur independently and should be dependent upon Lima Exploration’s proposal to drill oil and gas wells and construct miles of new road.</p> <p>...the EA suggests that although 5 miles of new road would be constructed for the Tendoy Alternative that would cross numerous drainages, the EA states, “there is no evidence of sediment transport from these drainages into Big Sheep Creek.”, when in fact, drainages that have eroded over time is evidence that there has been sediment delivery downslope.</p>

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			<p>Recommendation:</p> <ul style="list-style-type: none"> <li>• The analysis needs to account for additional sedimentation based on additional disturbance and erosion.</li> </ul>
<p><b>Response:</b></p> <p>The commenter is referring to the No Action Alternative which states : "Under this alternative no road improvements would be made; therefore, there would be no change in sediment loading; Big Sheep and Little Sheep Creeks would continue to be impacted by sedimentation from the road network at existing levels." Existing levels are explained as regular county maintenance and recreational/residential use. Road improvements, as described in the EA, are "Approximately 14.1 miles of Big Sheep Creek Road would be maintained or upgraded to transport drilling equipment", "Approximately five miles of new road would be constructed to access the Tendoy well pad.", "Approximately 3,900 feet (0.74 mile) of Little Sheep Creek Road (known as Forest Service Road 179 within the Unit Boundary) would be upgraded to transport drilling equipment.", and "There is one short (less than 100 feet) segment of new road proposed with the White Pine pad location."</p> <p>Appendix D provides data for the current sediment loads into BSC and LCR as a result of current use. Page B-12 of Appendix D states" There are two areas of focus for roads in uplands areas associated with this project. First is the proposed approximately five miles of new road construction for the Tendoy alternative. That roads and the dry drainage features that the road crosses are shown in Figure 1. While these drainages are all within the watershed of Big Sheep Creek, there is no evidence (per. comm. Kevin Weiner, May 30, 2018) of sediment transport from these drainages into Big Sheep Creek. The potential for sediment delivery to Big Sheep Creek from these drainages is a reality in some locations for certain low-recurrence-interval rain events. For many of the drainages, there is not hydraulic connectivity to the Creek." Although erosion is defined as "the action of surface processes that removes soil, rock, or dissolved material from one location on the Earth's crust, and then transports it to another location", the lack of hydraulic connectivity from the new proposed disturbance for the Tendoy location to Big Sheep Creek will not, in all likelihood, transport of any downslope sedimentation (sedimentation not mitigated by erosion control measures) from the proposed Tendoy road to the water resource. Therefore, there will be no additional sedimentation load or effect to fisheries because of the construction and upgrades for the 5 miles of new Tendoy road.</p> <p>Page B-12 continues to analyze the effects of upgrades to the White Pine Ridge Road: "The second area of focus is the existing White Pine Ridge Road. There were several areas of road tread erosion observed (pers. comm. Kevin Weiner, May 30, 2018). Additional best management practices such as rolling dips would be effective at reducing the energy associated with erosive runoff. The sediment plumes that were from the White Pine Ridge Road did not extend a great distance downslope and were buffered by topographic features and vegetation. No sediment deliver to perennial water was observed. and the likelihood of this was considered to be very small due to factors such as vegetation and topographic buffering and the great distance from the road to live water."</p>			
8	Trout Unlimited	Sedimentation	<p>...the EA is particularly flawed considering that many of the recommendations to reduce existing sediments loads that are described in Appendix D are not actions that the project proponent can implement (e.g., reduce grazing pressure) or that the BLM has authority over (e.g., and County road maintenance). The majority of the recommended upgrades and improvements identified in appendix D that Lima Exploration purportedly will undertake are in fact maintenance activities (e.g., maintain road grade, maintain grader berm).</p> <p>To achieve the assumed sediment reductions, these actions require a long-term commitment...appendix D notes that "cooperation of the County Roads Department" will be required to achieve many of assumed reductions in sediment delivery...these are not necessarily mitigation measures that Lima Exploration can commit to, especially over the long run if the exploration well is a dry hole and the company moves on.</p>

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			<p>...the EA suggests that although 5 miles of new road would be constructed for the Tendoy Alternative that would cross numerous dry drainages, “there is no evidence of sediment transport from these drainages into Big Sheep Creek.” The very fact that there are drainages that have eroded over time is evidence that there has been sediment delivery downslope...During runoff and high flow events there would undoubtedly be the potential for additional sediment delivery to Big Sheep Creek as a result of the surface disturbance associated with the proposed well pad and road construction activities.</p> <p>The EA must account for this reality in its impact assessment.</p>
<p><b>Response:</b> See Response to #8 above.</p> <p>The EA has addressed the baseline sedimentation load (i.e., existing sedimentation with current County Maintenance) and through Appendix D has shown that, in cooperation with Beaverhead County, continued maintenance and minor upgrades to Big Sheep Creek and Little Sheep Creek Roads will result in a decrease of sediments to Big Sheep Creek and Little Sheep Creek. With the addressed maintenance activities “the baseline condition of the proposed access roads for both alternatives contribute to sedimentation of Big Sheep and Little Sheep Creeks. Either actions alternative would result in a beneficial effect with respect to reduction of sediment in surface waters, and improved watershed condition.” (EA p. 43). If the exploratory proves to be a dry hole, no additional drilling operations will occur for the proposed 6action and sedimentation will return to the baseline analyzed in this EA.</p>			

#### Sage-Grouse

Comment No.	Commenter	Subject	Comment
1	Montana Wildlife Federation	Stipulations	<p>The EA did not mention any stipulations in Appendix A that would protect sage grouse from the negative impacts of development. Stipulations should be added to prevent construction and road upgrades during active lek season. We believe that in working closely with the Montana Sage-grouse Oversight Team, BLM is taking important steps towards ensuring conservation of the sage-grouse.</p> <p>BLM must still meet its obligations under the Federal Policy Lands Management Act (FLPMA) to prioritize leasing outside sage-grouse habitat. Until BLM can show how it is implementing such prioritization, it should not accept either the Tendoy or White Pine alternative.</p>
<p><b>Response:</b></p> <p>Sage-grouse habitat is present along both Big Sheep Creek Road and Little Sheep Creek Road, but neither proposed location is in federally designated habitat. The Tendoy well pad site is located in State General habitat. The closest lek to the Tendoy location and the White pine location is five miles and six miles, respectively. This is not a decision to lease; the leases are pre-existing, and the operator has a valid right to explore for fluid minerals on the lease.</p>			

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2	MTFWP	Compliance with ROD	<p>This EA is not compliant with the Idaho and Southwestern Montana Greater Sage Grouse Approved Resource Management Plan Amendment (September 2015). The purpose of the amendment is to ensure the new projects avoid, minimize, and compensate for unavoidable impacts to sage grouse habitat. The plan amendment requires mitigation for impacts that provide a net conservation gain to sage grouse habitat. Appendix J of the amendment provides details specific to implementation in southwestern Montana.</p> <p>The Tendoy alternative involves the development of a new road in areas designated as Priority Habitat Management Area (PHMA) and General Habitat Management Area (GHMA) for sage grouse... there is no analysis of impacts to sage grouse habitat, no discussion of how the project follows the mitigation hierarchy (i.e., avoid, minimize, then compensate), and no indication of how mitigation will yield a net conservation gain.</p> <p>...the EA fails to describe a surface disturbance analysis and how the proposed project contributes to an overall 5% surface disturbance cap...It also fails to mention that PHMA and GHMA are avoidance areas for new infrastructure.</p> <p>FWP recommends that the BLM/USFS complete an analysis of impacts to sage grouse habitat for each alternative, per the plan amendment requirement. Based on the information currently provided in the EA, it appears impacts to sage grouse habitat from the Tendoy alternative could largely be avoided in the White Pine alternative were selected.</p>
<p><b>Response:</b></p> <p>See response to Comment 1. The EA has been updated with additional analysis and incorporates a discuss of the State of Montana Mitigation Habitat Quantification Tool assessment as applied to both action alternatives. As quantified by the raw HQT scores, the Tendoy Alternative results in a much greater impact to sage-grouse compared to the White Pine Alternative. The largest impact may be attributed to 4.7 miles of new road construction in GHMA, PHMA and State General Habitat for Tendoy compared to the 85 feet of road construction in non-habitat under White Pine. The White Pine alternative better avoids and minimizes impacts to sage-grouse habitat, demonstrating adherence to the mitigation hierarchy described in 40 CFR § 1508.20 compared to the Tendoy alternative.</p>			

#### Wildlife (Winter Range)

Comment No.	Commenter	Subject	Comment
1	Environment Montana Research and Policy Center	Both Action alternatives also cause undue harm to wildlife	<p>Drilling at either site would transform the Tendoy Mountains from a wintering ground for big game species into an industrial zone, and it would further divide a critical wildlife corridor for our region.</p> <p>The disruption and fragmentation of natural habitat will reduce local big game populations.</p> <p>A 2006 study found that the construction of well pads drove away female mule deer. The mule deer population in the area dropped by 50 percent between 2001 and 2011, as drilling in the area continued.</p>

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			<p>...the High Divide is a critical wildlife corridor connecting the Great Yellowstone ecosystem to the Crown of the Continent. Ecosystem health in this area impacts a wide range of species, including grizzly bears, wolverines, lynx, cutthroat trout, and golden eagles.</p> <p>The Bureau should be expanding connectivity and habitat protections in this corridor, not dividing it up further.</p>
<p><b>Response:</b></p> <p>WHITE PINE: Drilling is expected to displace wildlife from the area during activity and it is recognized that increased traffic in this area could contribute to big game mortalities if they cross during a time when traffic is high . One well pad is proposed under this activity and the area and is along an open motorized road. Additional fragmentation of habitat is not expected under this exploratory pad due to the location being already accessible. Long-ranging wildlife species with large home ranges (grizzly bears for example) would be able to move outside of the disturbance area during activity to an area that is more secure during critical times. The well location is in big game winter range and access to the well location would cross through additional big game winter range. Exploratory drilling on one well pad location is not expected to have the same impact as under a fully developed gas field because well density and traffic is substantially less. Because of the proximity to an open route, the area is already considered not a secure area for most wildlife. Additionally, the area proposed for the pad location is generally open habitat, which is non-forested, minimizing the value to other species in this comment such as lynx. Eagles can potentially benefit from possible roadkill resulting from increased traffic, however there is always the possibilities for eagles to also get hit along these roadways. Lower road speeds can minimize potential roadkill.</p> <p>The response for the White Pine location is applicable to the Tendoy location with the addition of the possibility of habitat fragmentation because of the additional road construction proposed to access the well pad. The well pad location is accessible by an open motorized route with exception to the last 4.7 miles of proposed road construction.</p>			
2	Montana Wilderness Association	Harm to wildlife during production	<p>The increased noise, air pollution, traffic, human activity, and light associated with exploratory drilling have effects that spread beyond the boundaries of the well pad...collisions with truck traffic are likely to cause serious harm to wildlife in this area.</p> <p>MWA appreciates the seasonal construction timing constraints that would mitigate disruption to raptors, big game in winter and spring, and bighorn sheep during winter, lambing and rutting during key times of year. However, because these lease stipulations don't apply to operation and maintenance of production facilities, this leaves open the possibility of significant harm to these wildlife species during production phase.</p> <p>The impacts to wildlife species during production should be fully analyzed in an EIS to better understand how those wildlife species will be affected. Production is a foreseeable effect of this project and therefore it needs to be sufficiently analyzed.</p>
<p><b>Response:</b></p> <p>It is expected that displacement to wildlife will occur resulting from increased noise, lighting, human activity, and truck traffic. One exploratory well location is not expected to significantly harm resident wildlife in the long term because the well location is next to a motorized route and is exploratory in nature. Development of this area for resources would be expected to have larger and more long term impact to wildlife and would be analyzed at that time. Maintenance and operation are</p>			

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expected to be much less disturbance to wildlife than drilling as some maintenance can be done remotely, is usually done with one or two vehicles and is short term, temporary and sporadic. Production is expected to be less impact than drilling the initial well as water is generally trucked and other than that the disturbance is low during exploration.			
3	Montana Wildlife Federation	Impacts to mule deer from development	The BLM and USFS should develop a baseline understanding of the mule deer herd and wildlife use patterns in the area. Impacts from development should be documented, and an effective monitoring program needs to be adaptive with trigger points for actions that will abate undesirable effects.
<b>Response:</b>  Long term impacts to mule deer are not expected from one exploratory well location. Science has shown and documented long term impacts from development of these resources and if a development phase is proposed, longer term monitoring and adaptive management with trigger points could be considered at that time.			
4	Montana Wildlife Federation	Timing limitations	<p>Notable stipulation differences exist between the BLM and the Forest Service related to bighorn sheep and big game calving/birthing areas.</p> <p>For BLM lands, there is a timing limitation for calving/birthing areas from April 1-June 30, as well as a timing limitation from November 1 - June 30 in bighorn rutting, winter, and lambing habitat; the Forest Service does not appear to have stipulations for these resources.</p> <p>However, the Forest Service could apply these same restrictions, as applicable, as conditions of approval.</p> <p>We ask that the BLM analyze impacts to big game calving/birth areas and bighorn sheep ranges.</p> <p>Additionally, we ask that, as applicable, BLM timing limitations for big game calving/birth areas and bighorn sheep ranges be applied to Forest Service lands as conditions of approval.</p>
<b>Response:</b>  Consistent with the analysis and management decisions in the applicable RMP, the BLM applied stipulations to avoid/minimize impact to resources on lease MTM 098650 (Tendoy alternative). Consistent with the analysis and management decisions in the Beaverhead-Deerlodge Forest Plan, the USFS applied stipulations to avoid/minimize impacts to resources on lease MTM 096679 (White Pine alternative). Although these stipulations differ according to the Planning document applied, the BLM has the authority to apply Conditions of Approval at the time of APD approval for any additional mitigation needed to avoid impacts to resources. <p>The current timing stipulation applied to the White Pine alternative location is for No Surface Use from December 1 to May 15 on the portions of the lands (T. 14 S, R. 9 W Section 18 E1/2, E1/2W1/2) that may be occupied by the proposed White Pine Alternative well pad. The purpose of the stipulation is to preclude surface disturbing activities in big game winter range which could cause increased stress and or/displacement of animals during the critical time period. Although the White Pine location has been determined to be in big game winter habitat, it has not been determined to be lambing habitat for bighorn sheep. Therefore, a timing limitation for April 1 – June 30 would not apply.</p>			

### Laws, Regulations and Policy

Comment No.	Commenter	Subject	Comment
1	Montana Wilderness Association	NEPA Hard Look	<p>Although it may be uncertain if or when any additional development would occur, NEPA requires the agency to take a “hard look” at reasonably foreseeable impacts in an environmental assessment.</p> <p>Production is a foreseeable outcome, and therefore it is within the scope of this analysis.</p> <p>Several recent legal decisions have stated that the cumulative climate change impacts of production and downstream Greenhouse Gas (GHG) consumption must be analyzed at the leasing stage. It follows that these cumulative effects should also be considered at the APD stage.</p> <p>It is also important for this project to be examined within the context of other oil and gas activities across the state of Montana in order to understand the full scope of the impacts to wildlife, recreation, water, air, and climate from the state’s oil and gas activities.</p> <p>The EA does not adequately analyze these impacts or provide adequate context for its conclusions. Therefore, MWA would like to see a full EIS to fully analyze the impacts that this project will have on this landscape.</p>
<p><b>Response:</b></p> <p>The BLM considered the cumulative effects of direct emissions from one proposed well as it is the action that is being analyzed in this EA. As stated in the EA, “There are no known activities within Beaverhead county nor the project vicinity that contribute substantially to air quality degradation. The current activity is a single well (with accompanying truck traffic). Based on the results of the BDNF air quality analysis, maximum concentrations of hazardous air pollutant emissions from the project are expected to be negligible and well-below applicable state and Federal criteria. No violations of the NAAQS or state air quality standards would result from implementation of the project.”</p> <p>The Reasonably Foreseeable Development Scenario (RFD) predicts “that there would be a low level of drilling on the Beaverhead NF. The assumption is there could be 10 wildcat and four development wells drilled over the subsequent 15-year period. The majority of wells would be dry holes, thus making the effects short lived, i.e., less than a year. If one of the exploratory wells was successful and found oil and/or gas the effects could last longer. The RFD also predicts that the foreseeable wells would require pads and roads averaging 6.7 acres/well. Reclamation of the site would return the land to a status similar to the pre-drilling condition” (BDNF 2009 p. 316) The GIS modeling used for the analysis in the 2009 BHDL Forest Plan does not show any BDNF land with higher than “Moderate” potential for the occurrence of oil and gas. The remaining land shows “Low” or “Very Low” potential. A larger cumulative effects analysis area would not be meaningful because it would dilute the effects of the proposed action.</p>			
2	Montana Wilderness Association	Reasonably Foreseeable Development	<p>The EA should consider the foreseeable impacts to the area if... additional leases were developed, in addition to production of this well if there are positive results from exploration, and how this cumulative activity could affect wildlife populations.</p>
<p><b>Response:</b> See Response to #1 above.</p>			

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3	Greater Yellowstone Coalition And Trout Unlimited	Cumulative Effects Analysis	<p>The BLM's NEPA obligations for the analysis of cumulative effects is not only to consider those actions for which the agency is certain will occur, but to also consider those actions that are reasonably foreseeable.</p> <p>Recommendation:</p> <ul style="list-style-type: none"> <li>Based on the statement from the holder, an additional 10-20 wells need to be considered in the analysis.</li> </ul> <p>CEQ regulations require that Federal agencies analyze cumulative impacts of actions, including the incremental impact of "past, present and reasonably foreseeable future actions." (40 CFR § 1508.7). This statement is not limited to actual proposals, but also those that are being reasonably contemplated. The Lima Exploration contemplating future development in the Tendoy Unit is incumbent upon the BLM and Forest Service to give these cumulative impacts a hard look.</p>
<b>Response:</b> See response to #1 above			
4	Montana Wildlife Federation	EIS	<p>The Tendoy and White Pine Ridge project locations both have shortcomings relative to fishery, wildlife, and existing recreation resources in the Big Sheep Creek and Little Sheep Creek drainages. We believe that an Environmental Assessment is simply not sufficient in determining the extent of impacts from exploratory drilling in the Tendoy Mountains, and thus, we suggest a full Environmental Impact Statement (EIS) be utilized. A Finding of No Significant Impact (FONSI) would not be warranted, given the aforementioned shortfalls and impacts to wildlife, habitat, and recreation.</p>
<p><b>Response:</b></p> <p>The BLM has addressed the commenters concerns in the Groundwater section (responses 2-5), Sage-Grouse section (response 1), Wildlife section (responses 3, 4) Wetlands/Riparian/Fisheries section (responses 1, 5), Recreation section (responses 1,3). The EA has determined that the environmental impacts of the proposed action have not risen to a level of significance that would warrant the writing of an EIS. The most significant cumulative effects to wildlife, streams, and fishery habitat are already occurring with the current uses (grazing, recreation, ) have been managed until now to cause no significant effect. The EA analyzed the proposed develop for one well on a single pad with production facilities. The EA shows that the analyzed actions would have no significant effects on resources after the application of design features, lease stipulations, mitigation measures, and Conditions of Approval.</p>			
5	Greater Yellowstone Coalition And Trout Unlimited	Lease Validity	<p>...we question whether the leases remain valid due to the ten-year term expiring. While the need to conduct environmental analysis is a reasonable delay for which a lease suspension is justified, the timeline originally presented in scoping is far from the current situation and deserves an explanation.</p> <p>We note that the original scoping notice presented a timeline in which the draft EA would be issued in Feb. 2016, yet the draft EA was not issued until Dec. 2019; this is a delay of over 3.5 years.</p> <p>What was the cause of this delay?</p> <p>Was it on the part of the BLM and/or Forest Service or a delay caused by the applicant?</p>

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			<p>If the delay was caused by the applicant, then any lease suspension likely should have been lifted and the term should have been running during this time.</p> <p>In doing so, it is probable that the leases would have expired and would no longer be valid.</p> <p>Recommendation:</p> <ul style="list-style-type: none"> <li>• Provide and explanation to the public as to why the 3.5 year delay between scoping and draft EA.</li> </ul>
<p><b>Response:</b></p> <p>The two leases associated with the proposed action were unitized (MTM107915X) effective 10/1/2009. According to Unit regulations, the operator must produce from the unit within 6 months of the effective date of the unit. Because of the sensitivity and complexity associated with the proposed project location, it would not have been possible for the operator to perform the unit obligations within the allotted timeframe.</p> <p>Per the Mineral Leasing Act of 1920, as amended, defines the types of suspensions and the criteria that need to be met for each. Under Section 17, the BLM can suspend either operations or production, while suspensions under Section 39 suspend both operations and production. Section 17 suspensions halt the term of the lease, but rental, and, if applicable, royalty payments continue. Section 39 suspensions of operation and production halt the term of the lease as well as any rental and royalty payments during the duration of the suspension.</p> <p>Per 43 CFR 3186.1 25. UNAVOIDABLE DELAY. All obligations under this agreement requiring the Unit Operator to commence or continue drilling, or to operate on, or produce unitized substances from any of the lands covered by this agreement, shall be suspended while the Unit Operator, despite the exercise of due care and diligence, is prevented from complying with such obligations, in whole or in part, by strikes, acts of God, Federal, State, or municipal law or agencies, unavoidable accidents, uncontrollable delays in transportation, inability to obtain necessary materials or equipment in the open market, or other matters beyond the reasonable control of the Unit Operator, whether similar to matters herein enumerated or not.</p> <p>I.e., agency timeframes required to complete environmental documents, BLM may grant a suspension of subsequent drilling obligations when it is in the public interest.</p> <p>Public Interest is defined as: Anything affecting the rights, health, or finances of the public at large. Public interest is a common concern among citizens in the management and affairs of local, state, and national government. It does not mean mere curiosity but is a broad term that refers to the body politic and the public weal.</p> <p>That when considering public interest, the Secretary concerned shall give full consideration to better Federal land management and the needs of State and local people, including needs for lands for the economy, community expansion, recreation areas, food, fiber, minerals, and fish and wildlife.</p>			
6	Greater Yellowstone Coalition And	Compliance with LUP	<p>We note that the approved Resource Management Plan for the Dillon Field Office includes the following stipulation “No Surface Occupancy. Surface occupancy and use is prohibited within 1/2 mile of developed recreation sites. A currently developed recreation site is the Big Sheep Creek Back Country Byway. Given this stipulation, it appears that at least some of the activities proposed for the Tendoy Well location is precluded by the</p>

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	Trout Unlimited		underlying RMP. For instance, the proposed “upgrades” to BLM roads #70107 and #1838 and #70063 are within a half-mile of the Big Sheep Creek Road, potentially in conflict with the RMP.
<b>Response:</b>  Per 43 CFR §3101.1–3 Stipulations and information notices: The authorized officer may require stipulations as conditions of lease issuance. Stipulations shall become part of the lease and shall supersede inconsistent provisions of the standard lease form. Any party submitting a bid under subpart 3120 of this title, or an offer under § 3110.1(b) of this title during the period when use of the parcel number is required pursuant to § 3110.5–1 of this title, shall be deemed to have agreed to stipulations applicable to the specific parcel as indicated in the List of Lands Available for Competitive Nominations or the Notice of Competitive Lease Sale available from the proper BLM office. RMP lease stipulation NSO 11-21 (No Surface Occupancy. Surface occupancy and use is prohibited within 1/2 mile of developed recreation sites) was not applied to lease MTM 98650 at the time of lease issuance. The NSO stipulation cannot be applied to the parcel retroactively. Any mitigation to the visual or recreational resource can be addressed as a Condition of Approval at the time of APD approval. Design features associated with the project will minimize risks associated with constructing an access road within ½ mile of BSC Back Country Byway.			
7	Trout Unlimited	Range of Alternatives	An additional alternative offered by Montana Trout Unlimited was to access drilling location via helicopter. However, the EA dismissed this alternative, stating that it was “outside the scope of this analysis” (appendix C-15)... the EA provides no justification for why this is not a reasonable alternative that should go forward in the analysis.
<b>Response:</b>  Helicopter services for drilling projects are generally reserved for locations that have difficult access or are offshore. In the case of the 2 action alternatives analyzed in this EA, each has an engineered road plan included in the SUPO. With the inclusion of this plan a safe, passable road could be installed and therefore no need for a helicopter to assist with access.			
8	Trout Unlimited	Range of Alternatives	National Environmental Policy Act (NEPA) regulations are clear that agencies shall examine all reasonable alternatives...By analyzing only two action alternatives, the public has not been provided an adequate range of alternatives to consider, evaluate, and comment upon.  While it is not necessary to consider and analyze all alternatives, the agency must consider a full spectrum of alternatives to the federal action in question.  In this instance, this should include a full range of potential management decisions and stipulations to protect resource values.  Not only should alternatives drilling locations be considered, but additional conditions of approval should also be considered.
<b>Response:</b>			

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<p>Two alternatives were proposed by Lima Exploration to drill an exploratory oil well (the Tendoy alternative and the White Pine alternative). A third alternative was considered but eliminated; the alternative was to analyze a well pad location near the mouth of Chute Canyon or the mouth of Norris Canyon. As stated in the EA p 26 “Lima Exploration evaluated the feasibility of drilling from these locations and determined that these locations are not drillable due to the horizontal distances from the geologic target. The BLM has concurred with this conclusion.” The alternative development and comparison have been written based on environmental factors and the need to identify the alternative that is practical and fully meets the purpose and need. The environmental implications of each alternative are the focus of the environmental analysis.</p> <p>Management decisions regarding the proposed action are either to approve the APD with conditions or deny the APD. Stipulations to protect resources have been identified in Appendix A, and Conditions of Approval are listed in the EA (table 2-3) as applicant committed design features. Additional Conditions of Approval required to mitigate impacts analyzed in the EA will be applied at the time of APD approval.</p>			
9	Greater Yellowstone Coalition and Trout Unlimited	FONSI	<p>A FONSI is not warranted. Clearly, there are numerous resource values that meet the threshold of significance in terms of context, including native and wild trout, Big Sheep Backcountry Byway, winter range for deer, elk and bighorn sheep, and greater sage grouse habitat. These resources are significant regionally and locally. For instance, Westslope cutthroat trout are significant locally as a native species endemic to the Little Sheep Creek drainage, but also significant range-wide with this species inhabiting less than 5% of its former range in the upper Missouri River drainage. Against this context, the intensity criteria in the CEQ NEPA regulations need to be considered. Specifically, the following considerations from 40 CFR § 1508.27 are applicable to the proposal and decision before the agencies:</p> <ul style="list-style-type: none"> <li>• unique characteristics of the geographic area (e.g., historic resources, park lands, prime farmland, wetlands, wild and scenic rivers, ecologically critical areas);  <i>Unique characteristics:</i> ...the project location is home to numerous unique characteristics, including native trout, a popular wild trout fishery, important habitat for multiple wildlife species, a designated Backcountry Byway, and wetlands. When considering the intensity of impacts, TU suggests that impacts that may be considered by some to be minor would meet the legal threshold for “significance” for these unique resource values.</li> <li>• degree of controversy;  <i>Degree of controversy:</i> controversy over the impact of the project is relevant, especially considering assumptions about sediment inputs and the ability for mitigation measures (i.e., road maintenance) to be implemented long-term.</li> <li>• degree of highly uncertain effects or unique or unknown risks;  <i>Uncertain effects:</i> The EA acknowledges that assumptions regarding sediment reduction “may vary substantially from the actual situation due to an incomplete understanding of road sediment erosion and delivery dynamics by the scientific community.” (p.34. Clearly, this creates uncertainty as to the impacts from the proposed activities, the conclusions drawn in the EA and the impacts analysis.</li> <li>• precedent-setting effects;</li> </ul>

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			<ul style="list-style-type: none"> <li>• cumulative effects; <i>Cumulative effects:</i> See discussion above regarding likely build-out of development based upon geologic information provided by the applicant, unitization, and the applicants own statements about future development.</li> <li>• adverse effects on scientific, cultural, or historical resources;</li> <li>• adverse effects on endangered or threatened species or designated critical habitat (pursuant to the Endangered Species Act); and</li> <li>• violations of federal, state, or local environmental law.</li> </ul> <p>...should the agencies attempt to issue a FONSI, we request that the FONSI be made available for public review and comment at least 30 days before a final decision is to be made.</p>
<p><b>Response:</b></p> <p>See response #10 below for precedent-setting effects.</p> <p><b>Unique Characteristics</b> There are no effects on park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.</p> <p><b>Degree of controversy</b> No unique or appreciable scientific controversy has been identified regarding the effects of the Proposed Action. The environmental analysis did not show any highly controversial effects to the quality of the human environment. See responses to numbers 8 and 9 in the groundwater section for more discussion of effects of sedimentation.</p> <p><b>Degree of highly uncertain effects or unique or unknown risks</b> There will always be some uncertainty about the effects of land management actions, and the decision-maker must exercise some judgment in evaluating the degree to which the effects are likely to be highly uncertain. Similarly, there will always be some risk associated with land management actions, but the decision-maker must consider whether the risks are unique or unknown. The proposed action of approving and APD is not unique or unusual. The EA describes the proposed exploration and development activities that could occur on the federal lease along with the potential impacts from those activities, as well as applicable design features and stipulations designed to minimize or eliminate impacts. There are no predicted effects on the human environment that are considered to be highly uncertain or involve unique or unknown risks. The stipulations are designed to avoid/minimize impacts to public health and safety. Any additional mitigation not associated with the stipulations have been applied as design features or will be applied as Conditions of Approval.</p> <p><b>Cumulative effects</b> The EA analyzed the proposed develop for one well on a single pad with production facilities. The EA shows that the analyzed actions would have no significant effects on resources after the application of design features, lease stipulations, mitigation measures, and Conditions of Approval.</p> <p><b>Adverse effects on scientific, cultural, or historical resources</b> The proposed locations have been subject to cultural resource inventories. The proximity to historic or cultural resources has been analyzed and design features have been incorporated to eliminate any possible direct effects.</p>			

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<p>Adverse effects on endangered or threatened species or designated critical habitat.</p> <p>The project will not directly or indirectly affect any listed species for Beaverhead County. The project proponent has agreed to conduct pre-construction field clearance surveys for Whitebark pine (<i>Pinus albicaulis</i>) (a USFWS candidate plant species) and some BLM/FS special status species in areas where there is suitable habitat for these species and where there will be construction ground disturbance. BLM lease stipulation MT-12-11 requires a field inspection to be conducted for special status plant species prior to any surface disturbance, to protect and conserve rare plants, associated plant communities, and the habitat that supports them. Habitat is present for grizzly bear and North American wolverine, and the potential for the species occurrence in the project area is likely. In addition to BLM and USFS policy and guidance, lease stipulation TES 16-2 is applied and states “The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA as amended, 16 U.S.C. 1531 et seq., including completion of any required procedure for conference or consultation.” Additionally, westslope cutthroat trout are a sensitive species that may be significant regionally and locally, but significant effects to this species are not anticipated under any alternative.</p> <p>Violations of federal, state, or local environmental law</p> <p>The proposed action does not threaten to violate any known Federal, State, Tribal, or local law or requirement imposed for the protection of the environment. Furthermore, the project is consistent with applicable land management plans, policies, and programs.</p>			
10	TU	Precedent setting effects (390 CX)	<p>Precedent-setting effects:</p> <p>Of interest is the precedent setting nature of this decision, especially when consideration is given to future categorical exclusions from the 2005 Energy Policy Act that would be applicable for future development. Upon completion of an EA or EIS and approval of the application to drill, criteria will have been met for the approval of two of the section 390.</p> <ol style="list-style-type: none"> <li>1. Individual surface disturbances of less than five (5) acres so long as the total surface disturbance on the lease is not greater than 150 acres and site-specific analysis in a document prepared pursuant to NEPA has been previously completed.</li> <li>2. Drilling an oil and gas well at a location or well pad site at which drilling has occurred previously; and</li> <li>3. Maintenance of a minor activity, other than any construction or major renovation of a building or facility</li> </ol> <p>Particularly concerning is that future drilling within the Tendoy Unit would be approved without any further environmental analysis. Given the proposed actions would create 12 acres and 29.8 acres, respectively, and a typical well pad are typically less than 5 acres, it is foreseeable that Lima Exploration’s 10-20 well development scenario would be approved without the requirement for an EIS (or for that matter a future EA) at any point in the process. Notably, the section 390 categorical exclusions apply unless there is “evidence to the contrary” and do not require review for extraordinary circumstances. ...The effect of the statutorily established categorical exclusions is to “establish a precedent for future actions with significant effects or represents a decision in</p>

Comment No.	Commenter	Subject	Comment
			principle about a future consideration”, precisely as described on 40 CFR 1508.27 – this precludes a FONSI and requires an EIS to be completed for the project.
<p><b>Response:</b> Reference IB 2018-061, 42 USC 15942, 43 CFR 46.21 0, BLM 516 DM 11.9.</p> <p>A proposal for discretionary Federal action triggers NEPA. The NEPA process is initiated when a proposal has been developed by or submitted to the BLM. As a federal agency, the BLM must meet NEPA requirements whenever it is the BLM's decision that would result in an effect on the human environment, even when the effect would be beneficial and regardless of who proposes the action or where it will take place ( 40 CFR 1508.18).</p> <p>The BLM will seek to expedite the processing of APDs or infrastructure proposals for fluid mineral development by first considering if it can rely on existing NEPA analyses for assessing the impacts of a proposed action and the possible alternatives to the proposal ( 43 CFR 46.120). If existing NEPA analyses are sufficient to support the proposed decision, then BLM should document its reliance on these existing analyses in a DNA, as provided for in 516 DM 11.6, or by adopting or incorporating these analyses into a new NEPA document, or by tiering new analysis so that the existing analysis is effectively used as support for the new proposal.</p> <p>If the BLM cannot make a DNA, the BLM should consider whether there is an applicable CX. To do so, following the Department of the Interior procedures for implementing NEPA, 43 CFR 46.10, BLM field offices will assess whether it would be appropriate to rely on any of the CXs identified in the BLM National Environmental Policy Act (NEPA) Handbook H-1790-1, which lists and explains the use of CXs adopted by the Department of the Interior ( 43 CFR 46.21 0) or BLM (516 DM 11.9), and the statutorily established CXs from section 390 of the Energy Policy Act of 2005 (42 U.S.C. 15942).</p> <p>If no CX applies to the proposed action and if existing NEPA analysis is inadequate or unavailable to support the proposed action, then the BLM should prepare a new EA, or if necessary, a new EIS. Again, to comply with NEPA in the most expeditious and appropriate manner, the BLM should first consider whether other avenues for NEPA compliance are available before preparing a new EA or a new EIS.</p> <p>The CXs stated specifically in the comment apply to site specific locations that have already had NEPA previously completed. Any additional submission of an APD in the Tendoy Unit would require site-specific NEPA analysis, unless the APD sited a surface location that has been previously analyzed through the NEPA process, the APD surface location is proposed on an existing well pad where drilling has occurred previously withing 5 years prior to the date of spudding the new proposed well, or there is proposal for maintenance of a minor activity.</p>			

#### Air Resources

Comment No.	Commenter	Subject	Comment
1	Environment Montana Research and Policy Center	Greenhouse gas emissions from flaring	In the U.S., flaring accounts for 9% of the oil and gas industry’s overall greenhouse gas emissions. Because the practice is both harmful and nonessential, the project’s proposed use of flaring creates an unnecessary harm to our climate.

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<b>Response:</b>  Flaring of gasses during the drilling and completion stages is necessary for safety reasons; gasses that are carried to surface in the mud stream are separated and disposed of (flared) to prevent a blowout. During the production phase flaring is conducted in the absence of a pipeline to capture natural gas associated with the production an oil well (also called routing flaring). As stated in the EA, emissions from flares are difficult to predict as their volume depends on the amount of gas encountered. The BLM used the analysis from the March 2019 Oil and Gas Lease Sale to determine the effects one well would have in Beaverhead county to air quality; the results, as stated in the EA are: "Total indirect GHG emissions for the proposed action using the 20 year GWP are estimated at 0.00 million metric tons (MMT) of CO2 equivalents per year as compared to the 100 year GWP of 0.0006 MMT/year." Additionally, "Table 5 in the March 2019 OG EA list estimated downstream GHG emissions due to Fossil Fuel Combustion (P. 31). The estimate assumed that 100% of oil and gas would be produced from the site-specific location. Downstream/indirect GHG emissions were estimated using the 100 year GWPs and are compared to the estimated emissions using the 20 year GWP. The total projected increase in downstream GHG emissions from the proposed location is estimated to be 0.00 million metric tons (MMT) per year of carbon dioxide equivalents (CO2eq) if one well is developed, and if the number of wells projected in the lease sale RFD produce oil and gas at a production rate similar to other wells in the associated fields, downstream GHG emissions using 20 year GWPs is estimated to be 0.00 MMT/year."			
2	Montana Wilderness Association	Impacts to air quality	This project is utilizing data from air quality models in the Air Quality Analysis developed for the Beaverhead-Deerlodge National Forest Plan Revision.  This hypothetical analysis is not sufficient to make the assumption that drilling will produce no emissions that violate air quality standards...This project will result in increases in atmospheric concentrations of N2O, CO2, SO2, NOx, VOCs, dust, and acid depositions, and it is important to have an understanding of how air quality is being affected locally...  MWA recommends site-specific baseline studies of air quality be conducted prior to project implementation, during implementation and post implementation to gain a full understanding of the impacts. This baseline data will help inform decisions if exploration proves successful and a full project proposal is developed.
<b>Response:</b> See response to #1  The BLM used the air analysis from the march 2019 Oil and Gas Lease Sale for the analysis for one well in Beaverhead County. All information, including GHG calculations, emissions factors, and data that was used for the analysis based on the closest EPA air monitoring station in Dillon can be found here: <a href="https://eplanning.blm.gov/eplanning-ui/admin/project/114348/510">https://eplanning.blm.gov/eplanning-ui/admin/project/114348/510</a> . Additional data is available upon request.  At this time there is not a compelling need to conduct baseline studies of air quality in the project area. There is no air quality concern at the moment that would require the BLM to instruct the operator to perform a site-specific baseline study at the location because of additional possible cumulative effects. The BLM does not have the means to conduct site-specific baseline studies of air quality at this location; These studies, historically, have been conducted by the EPA as the EPA has developed the standards, methodology, tools, and procedures to do such a study.			

Comment No.	Commenter	Subject	Comment
3	Montana Wilderness Association	Impacts to Climate Change	<p>The EA summarizes current local and regional climates, but any discussion of how climate change may affect those climates is lacking, and there is no acknowledgement that GHGs from this project will contribute to climate change.</p> <p>This EA does account for direct emissions of the project, including from the drilling rig, tank heaters, and pump jack used during well production operations.</p> <p>However, it appears the emissions concentration estimates are based on hypothetical well sites using air quality models from the Air Quality Analysis for the Beaverhead-Deerlodge National Forest Plan Revision. These hypothetical analyses conducted in an EIS issued at the land use planning stage are often necessarily more general than analyses conducted at the APD stage and may rely on outdated data and methodologies.</p> <p>Instead, the agency should quantify and forecast GHG emissions from the proposed project well sites and share that information in the document.</p> <p>Without access to a data-driven comparison of GHG emissions from the project to regional and national GHG emissions, the public and agency decision makers have no context for the EAs' conclusions that GHGs from the project are "insignificant".</p> <p>...the agency must also consider the cumulative impact of aggregate GHG emissions generated by past, present, or reasonably foreseeable activities in the region and nation.</p> <p>This EA does not adequately analyze indirect climate impacts related to this project.</p> <p>That analysis should be taken into consideration in the context of aggregate GHG emissions produced by surrounding leases, and all wells in the state, and should compare those emissions to regional and national emissions...The EA also does not sufficiently address the cumulative climate impacts of this project.</p> <p>Downstream GHG emissions from consumption are a cumulative impact that needs to be analyzed. Producing oil for consumption is this project's entire purpose. Downstream use of oil, and the resulting GHG emissions, are thus reasonably foreseeable effects of this APD.</p> <p>The absence of any discussion of downstream GHG emissions are insufficient under NEPA, given the ability to forecast oil production and given that the entire purpose of the project is to generate a greater supply of oil for downstream use.</p> <p>If the agency decides that quantification is not possible or helpful, it should thoroughly explain that decision.</p>
<b>Response:</b>			

Comment No.	Commenter	Subject	Comment
<p>See response to #1. The BLM has updated the EA to display figures from the March 2019 Oil and Gas lease sale that incorporated an analysis for one developed well in the Dillon Field Office area. The full analysis can be found at <a href="https://eplanning.blm.gov/eplanning-ui/admin/project/114348/510">https://eplanning.blm.gov/eplanning-ui/admin/project/114348/510</a>. This analysis was developed using the Reasonably Foreseeable Development potential of the area. The EA also considers the analysis and cumulative effects of the RFD in the BHD Oil and Gas Leasing FEIS (1995). The results of modeling the hypothetical development of the project area resulted in “The projected effect to air quality from the reasonably foreseeable activity is minimal. Nonetheless, any effect would be cumulative with other activities within the airsheds in the analysis area.” Additionally, “Cumulative effects from ongoing activities, reasonably foreseeable activities, and the RFD scenario are projected to be within compliance with the National and Montana Clean Air Act standards for Class I and Class II airsheds.” (USFS FEIS 1995 P IV-88). There are no known activities within Beaverhead County nor the project vicinity that contribute substantially to air quality degradation.</p>			

#### Wetlands/Riparian/Fisheries

Comment No.	Commenter	Subject	Comment
1	Montana Wildlife Federation And Trout Unlimited	SPCC	<ol style="list-style-type: none"> <li>Any development within the watershed of a fish bearing stream introduces the risk of a spill and the resultant impacts to aquatic habitat and fisheries. According to Appendix B Aquatics table, there is little to no risk the cutthroat populations in this area could be affected by this project...we ask for additional information to back up that statement.</li> <li>The EA mentions the need for a Spill Prevention Control and Countermeasure (SPCC) plan but gives no details into what the plan should or needs to include. We believe that plan needs to be a part of this process and vetted by the public.</li> </ol>
<p><b>Response:</b></p> <p>1) The EA has been updated to reflect implementation of SPCC plan, SWPPP plans, compliance with the CWA, and OCMs put forth by the operator. All preventative measures and necessary precautions have been proposed in the APD.</p> <p>2) The BLM is authorized to conduct oil and gas operations under CERCLA, the Clean Water Act, and the Oil Pollution Act of 1990. §311 of The Clean Water Act sets forth requirements for the prevention of, the preparedness for, and response to oil discharges a specific non-transportation-related facility. The goal of this regulation is to prevent oil from reaching navigable waters and adjoining shorelines, and to contain discharges of oil. The regulation requires these facilities to develop and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans and establishes procedures, methods, and equipment requirements. Additional requirements for SPCC plans are listed under 40 CFR §112.7 – General requirements for Spill Prevention, Control, and Countermeasure Plans. Lessees are required to prepare and maintain a SPCC plan and report spills to the BLM. Additionally, per NTL-3A, upon request of the District Engineer, a copy of any Spill Prevention Control and Countermeasure Plan (SPCC Plan), required by the Environmental Protection Agency (EPA) pursuant to Title 40 CFR §112, or other acceptable contingency plan must be submitted [to the BLM].</p>			

As stated in the EA, Oil and gas exploration could result in spills from traffic accidents, uncontained drilling/production fluids, detergents, solvents, hydrocarbons, metals, naturally occurring radioactive materials, nutrients, or produced fluids that could potentially affect surface and/or groundwater resources in the short and/or long term. These or other constituents utilized during access road construction, well pad construction, and drilling activities could be washed into surface drainages during storm events. Spill prevention and response factors, including a Spill Prevention Control and Countermeasure Plan (SPCC plan), Stormwater Pollution Prevention Plan (SWPPP), and Conditions of Approval of the APD would reduce the frequency and severity of impacts to water resources from spills.

Additional information regarding SPCC plans can be found in appendix X: Spill Prevention, Control, and Countermeasure (SPCC) Regulation – June 2010.

2	Trout Unlimited	Analysis of Westslope cutthroat trout	We note that the EA appears to erroneously exclude Westslope cutthroat trout as a BLM special status sensitive species and as a Forest Service Region 1 Sensitive Species. In doing so, impacts to these native trout are not provided the same level of analysis that is provided for other special status species. The EA fails to provide the public with a full picture of the affected environment and possible effects and impacts to important resources. In particular, the potential effects to water quality and aquatic resources...
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**Response:**  
The EA has been updated to address these concerns. Westslope Cutthroat Trout has been identified as a sensitive species that is present in the Big Sheep Creek and Little Sheep Creek watersheds. The result of the analysis is that the proposed action may impact individuals but is not likely to cause a trend towards federal listing for Westslope Cutthroat Trout. See section 3.6 Riparian, Aquatic, and Wetland Habitat Species.

3	Trout Unlimited	Cumulative Effects Analysis	...the no action alternative fails to take into account the cumulative impact of other activities unrelated to the proposed project that are designed to reduce sediment delivery and improve watershed health. For instance, in 2016 the BLM issued a decision on the Big Sheep Creek Watershed EA that will improve grazing practices, restore wetlands and stabilization of approximately 150 feet of streambank on Big Sheep. The EA must fully account for these cumulative effects to watershed health...
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**Response:**  
The EA has been updated to analyze the direct, indirect, and cumulative effects of the proposed action including the assessment of construction, maintenance, operation, and upgrades to access roads and the well pads. Additionally, effects associated with the production of the well including the storage and transportation of products were considered. The analysis considers effects and impacts to the BLM and Norther Region Forest Service SSAS which include Bull Trout, Westslope Cutthroat Trout, Arctic Grayling, Western Pearlshell, and Western Toad. Additional metrics used to analyze the effects of the proposed action are:

- Quantitative assessment of effects to surface water and wetlands/riparian areas from sedimentation measured in tons of sediment.
- Change in volume of vehicle traffic along access roads.
- Qualitative assessment of the potential of drilling fluid, production waste, or oils entering surface water.

Section 3.6.5 Cumulative Effects analyzes the effects of past actions and current land uses that have potentially contributed to impacts to riparian, aquatic, and wetland habitat species within the Big and Little Sheep Creek watersheds. These actions include road construction and maintenance, forest management activities, and livestock grazing. Since these types of activities are foreseeable in the future, the EA has disclosed the effects.

4	MTFWP	Possibility of spill	The potential repercussions for any spill or leakage associated with the project is much greater using this [Tendoy] access route, given its proximity to Big Sheep Creek.
<b>Response:</b> See response to Wetlands/Riparian/Fisheries comment #1.			
5	Montana Wildlife Federation and Trout Unlimited	MOU with Conservation Agreement for Westslope Cutthroat Trout and Yellowstone Cutthroat Trout	Little Sheep Creek is a valuable native trout stream populated by a conservation population of upper Missouri River Basin westslope cutthroat trout. Westslope cutthroat trout are a Species of Concern for the state of Montana and a Forest Service and BLM Sensitive Species. ...Both the BLM and Forest Service are partners in the Memorandum of Understanding and Conservation Agreement for Westslope Cutthroat Trout and Yellowstone Cutthroat Trout in Montana (2007) , which list among other objectives, the goal of protecting and securing existing conservation populations. We are concerned that this MOU is not mentioned in the EA.
<b>Response:</b>  The MOU has been added as a document on page 10 of the EA (Relationship to Statutes, Regulations, or Policies). The Bureau of Land Management and the Forest Service are signatories to the Memorandum of Understanding and Conservation Agreement for Westslope Cutthroat Trout and Yellowstone Cutthroat Trout in Montana, so it was considered during project development for both alternatives.			

#### Visual Resources

Comment No.	Commenter	Subject	Comment
1	Montana Wilderness Association	Light Pollution	<p>The EA should consider how this project may contribute to light pollution. Light pollution can have serious environmental consequences for wildlife.</p> <p>Scientific evidence suggests that artificial light at night has negative and deadly effects on many creatures including amphibians, birds, mammals, insects, and plants. Birds that migrate or hunt at night and insects that are fatally drawn to light can be especially impacted. Artificial light disturbs sleep patterns and interferes with pollination, reproduction, and reduced populations (Longcore and Rich, 2004)2.</p> <p>Drilling rigs are the largest source of light pollution with this sort of project, but vehicle lights add to the problem as well. Because this exploration project would run 24 hours a day for 30 days, we recommend that additional consideration go into lighting design, including the use of shielded lights, in order to reduce sky glow, glare and light trespass.</p>
<b>Response:</b>  The BLM is currently not managing for night sky resources but recommends using Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM Administered Lands covered in the First Edition 2013 pg. 106. The lighting used should be limited to that required to safely conduct operations. It is recommended that lighting be shielded, and direct light should be focused on immediate work areas. Lighting for nighttime construction activities is bright for safety reasons. Impacts from this lighting are anticipated to be minimal and of short duration during the proposed 30-day project period.			

**Geology**

Comment No.	Commenter	Subject	Comment
1	Dr. Rob Thomas	Potential of finding economic quantities of fluid minerals	The potential of finding oil or natural gas that is economical at this location is so remote as to be negligible. The structure in that region is a complex web of thrust faults and folds all cut by normal faults. The micro-scale of most of this structure is such that the probability to have a stratigraphic or structural trap (e.g., fault trap) of any size and with any volume of oil or natural gas is essentially zero. There may be some small plays, but the structure prohibits anything economical.
<b>Response:</b>  It is the BLM's responsibility to respond to any APD under the Mineral Leasing Act of 1920 (MLA) as amended, the Federal Land and Federal Land Policy Management Act of 1976 (FLPMA), and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (FOOGLRA). The MLA authorizes the BLM to lease public lands for the development of mineral deposits (including oil, gas, and other hydrocarbons) and to permit the development of those leases. FLPMA mandates that the BLM manage public lands based on multiple use (43 U.S. Code [USC] § 1701(a) (7)). Mineral extraction is identified as one of the principal uses of public lands in Section 103 of FLPMA [43 USC § 1702(c)]. The FOOGLRA outlines BLM's and the Forest Service's responsibilities to respond to a request for an APD. Oil and gas exploration and development is recognized as an appropriate use of public lands in the Dillon Resource Management Plan (RMP) (BLM, 2006) and the Land and Resource Management Plan for the BDNF (Forest Plan) "offer oil and gas leasing opportunities under stipulations which protect resource values" (Forest Service, 2009 pg. 27). EA P.1			
2	Montana Wilderness Association	Seismic Activity	<p>The EA notes that there is a moderate risk of seismic activity in the project area and there are five faults within 10 miles of the project areas. The EA also states that no substantial geologic hazards or potential for lost circulation is expected. It is not clear from the EA whether the casing, cementing, and groundwater protection measures are designed to withstand an earthquake, or whether the risk of seismic opportunity is being dismissed as "not expected".</p> <p>...there is not enough context for the public to understand the EA's conclusion that this is not worth analyzing in the EA. MWA encourages planning for the exception and taking all precautions necessary to ensure that water contamination and mixing will not be a possibility if a seismic event does in fact occur.</p>
<b>Response:</b>  A 1978 Study (Pratt et al, 1978) of the effects of earthquakes on oil wells in California and Alaska documented crushing, bending, shearing, or collapse of the casing due to differential movement of the surrounding rock. The investigations revealed that the greatest effects of the earthquake were in the fields producing from soft unconsolidated formations.  The BLM has done a review of recent earthquakes near the Tendoy Unit in SW Montana. USGS seismic data has reported relatively few earthquakes from 1947-2020 at a depth less than 4 miles; none of the recorded earthquakes have taken place within the unit. Magnitude and intensity of an earthquake can vary because of the location; Intensity is not dependent upon the magnitude of the earthquake. Intensity is determined from the effects on structures and the natural environment; since magnitude measures the energy released at the source of the earthquake, depending on factors (i.e., depth, geology) the intensity can vary.			

The anticipated depth of the proposed wells is 4800 – 10,800 feet in the quadrant sandstone. This converts to a total vertical depth of 0.90 to 2.05 miles. In the event of an earthquake, and in the event that the well bore was damaged (or sheared) it is anticipated that younger nonpermeable formations such as silicic lavas (rhyolite), extrusive igneous rocks (andesite), or silicified limestones will provide a cap rock feature that will form a barrier or seal that will halt migration of any fluids that would be associated with the well bore.

Data does not currently exist to quantify the probability of occurrence or the severity of impact of earthquake induced wellbore collapse in oil and gas wells. A 2019 study (Kang et al, 2019) argues that the absence of data is due to lack of empirical studies on this topic and shows areas in the United States that have high well densities, high seismic occurrence, and high population densities like southern California which has been producing oil and gas since the late 1800's but cannot point at any recordable incidents. Studies have been completed comparing pipeline damage and peak ground acceleration, but wellbores have a more robust construction and pass through more competent geologic formations than pipelines. The Tendoy unit is in a less seismically active area than southern California and mudlogs from offset wells to the Tendoy unit were analyzed to check for unconsolidated formations and none were found.

Work was completed by Pratt 1978, looking at seismically induced damage to underground facilities as part of the nuclear waste repository research. They looked primarily at subsurface mines that were in seismically active areas. They concluded that more research needs to be completed but found “vertical structures such as wells and shafts are less susceptible to damage than surface facilities”, and “It is common knowledge in mining circles that damage caused by an earthquake is significantly less in the subsurface than at the surface”.

#### Recreation

Comment No.	Commenter	Subject	Comment
1	Montana Wildlife Federation	Effects to recreation (hunting, angling, hiking)	Development of either the Tendoy or White Pine project locations would negatively impact existing recreation opportunities such as hunting, angling, and hiking. According to MTFWP, the hunting districts for elk, deer, and pronghorn antelope that encompass the project areas are amongst the highest producing areas for big game hunting expenditures in the state, with elk hunters in Hunting District 300 spending over \$1.8 million in 2018. We believe that these existing recreation values in the area far outweigh energy production and speculative exploratory drilling.
<p><b>Response:</b></p> <p>The BLM is a multi-use agency, and it is the agency's responsibility to respond to any APD under the Mineral Leasing Act of 1920 (MLA) as amended, the Federal Land and Federal Land Policy Management Act of 1976 (FLPMA), and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (FOOGLRA). The Approved Plan (RMP) responds to travel management and access issues by providing a network of transportation routes that tie into roads administered by the counties, the Forest Service, and State of Montana agencies. Users who value nonmotorized areas for hunting, hiking, solitude, etc. are accommodated by areas that are closed, or along existing routes are not designated for motorized use. (BLM 2006). Recreation opportunities currently available would continue in the short term and long term of the proposed project.</p> <p>Impacts to recreation is anticipated to be low. Some lease Stipulations have limiting factors and apply seasonal use closures that have been analyzed to reduce hunting season impacts – mainly the sustainability of range and habitat for the game species listed in the stipulations. The BLM stipulations include timing limitation TL 13-7 which prohibit surface use from December 1 to May 15 to decrease surface disturbing activities in big game winter/spring range; TL 13-9 prohibits surface use from November 1 to June 30 in Bighorn rutting, winter, and lambing habitat. BDNL Wildlife Stipulation #3 prohibits surface use from</p>			

<p>December 1 to May 15 to preclude surface disturbing activities in in big game winter range. These timing stipulations have been applied to mitigate disturbance to breeding populations of big game species and their habitats for the listed timeframes.</p> <p>Forestwide direction for recreation and travel management is described using the Recreation Opportunity Spectrum concepts and definitions. The ROS is further defined by recreation allocations and mapped under specific management areas. The proposed project location on FS administered lands lies within the Medicine Lodge - Tendoy Management Area in a Road-based recreation allocation that allows for motorized recreation in summer and winter. The national forest system road (NFSR) that would access the proposed project location is open and would remain open for public motorized access to all recreation pursuits. Development of the proposed project locations would not change the current recreation allocation prescribed in the Forest Plan. Recreation opportunities currently available would continue in the short term and long term of the proposed project.</p> <p>Additionally, The BDNF finalized an Oil and Gas leasing EIS in June of 1995. The current 2009 BDNF forest plan tiers to the 1995 FEIS for applicable stipulations and analysis associated with oil and gas leasing. The Reasonably Foreseeable Development Scenario (RFD) predicts fourteen wells over the course of fifteen years with a possibility of two production sites (included in the 14 wells). Even if all fourteen wells were to be drilled, the effect to the pursuit of recreational opportunities in the analysis area would be very minor. A few recreationists may be temporarily displaced into areas of less desirability to them. This displacement would normally span less than one year to allow oil and gas exploration activity to cease. Complete reclamation of the site should be accomplished in five years. if the site were to become a producing site, it would be a long term loss for the recreationist (20 - 40 years).</p>			
2	MTFWP	Effects to recreation	The Tendoy Alternative would require 4.7 miles of new road with heavy truck traffic on the winding Big Sheep Creek Road, resulting in negative impacts to recreational angling.
<b>Response:</b> See Response to Recreation #1.			
3	Montana Wildlife Federation	Effects to hunting	Along with spills, the other risk factor for cold water fisheries is stream sedimentation...in both Little Sheep Creek and Big Sheep Creek. We appreciate the Road Sediment Assessment Report that was released with the EA. On page B7 and B8 of that report, it has two tables with recommendations of how to limit sediment loads into Little Sheep and Big Sheep Creeks. One recommendation not listed, that we believe should be, is road closure or prohibited use by the company during hunting season, except for routine maintenance activities.
<p><b>Response:</b></p> <p>Roads are open routes on FS lands in Little Sheep Creek and Big Sheep Creek, however weather will play a large part in accessibility to, specifically, the White Pine Well Pad. An explanation of the ROS is listed in Recreation Response #1. Additionally, FS road and trail use is a system of routes and areas designated for non-motorized and motorized use that have been identified and available for public use. Resources are protected, and user conflicts are minimized by allowing motorized wheeled travel only on designated routes and areas.</p> <p>As stated in Recreation Response #1, some lease stipulations have limiting factors and apply seasonal use closures that have been analyzed to reduce hunting season impacts – mainly the sustainability of range and habitat for the game species listed in the stipulations. These timing stipulations have been applied to mitigate disturbance to breeding populations and habitats for the listed timeframes. Since hunting days amount to about 20 percent of the total recreation use on the forest and the bulk of this use occurs during the five weeks of general rifle season in October and November, hunters could be displaced for an estimated maximum of 20 nonconsecutive days during the mobilization or demobilization of the drilling rig. Recreation opportunities currently available would continue in the short term and long term of the proposed project. While truck traffic may be at a greater volume for a short period of time , the long-term daily truck trips are expected to be low enough to not cause any measurable increase in impacts over what is currently occurring.</p>			

Additionally, the BLM Approved Resource Management Plan (ARMP) responds to travel management and access issues by providing a network of transportation routes that tie into roads administered by the counties, the Forest Service, and State of Montana agencies. Users who value nonmotorized areas for hunting, hiking, solitude, etc. are accommodated by areas that are closed, or along existing routes are not designated for motorized use. (BLM 2006)

Neither the BLM nor the USFS have the authority to close Big Sheep Creek Road or Little Sheep Creek Road as these are both county roads and out of the jurisdiction of the agencies.